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10/691,311	10/22/2003	Ronald A. Juve	100202667-1	6402

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EXAMINER

SOLOMON, LISA

ART UNIT	PAPER NUMBER
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2861

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/691,311	Applicant(s) JUVE ET AL.	
	Examiner Lisa M. Solomon	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14, 16, 18-20, 24, 25, 27, 33, 34 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 14, 16, 18-20, 24, 25, 27, 33, 34 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The indicated allowability of claims 12, 14, 16, 18-20, 24-25, 27, 33-34, and 37-39 is withdrawn in view of the newly discovered reference(s) to Markham et al. (6,808,243), Anderson (5,984,455), and Imanaka et al. (6,540,316). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imanaka et al. (6,540,316) in view of Markham et al. (6,808,243).

In re claim 12, *Imanaka et al. (316')* teaches A printing system, comprising: a printhead (See Figs. 8A-8B) having plural portions (see Fig. 8) each having an ink-ejecting nozzle (see Fig. 2) located therein [Column 14 lines 36-44]; plural temperature sensors (413a, 413b, 413c... Fig. 8) each associated with one of said plural portions to monitor the temperature thereof [Column 36-44]; plural heating elements (402, Fig. 8A-8B), each associated with one of said plural portions to apply heat thereto in response to a pre-warming signal [Column 9 lines 35-49]. However, *Imanaka et al. (316')* does not teach a controller configured to generate separate pre-warming signals for each of

the plural heating elements in response to the plural temperature sensors to elevate the temperature of at least one of said plural portions to a pre-warming temperature, wherein: the controller is configured to analyze which plural portions are required to eject ink during an upcoming print swath; the controller is configured to continue to generate pre-warming signals after printing of said upcoming print swath has begun; and after ink ejection from one of said plural portions is not required to complete said upcoming print swath, the controller is configured to cease to generate a pre-warming signal therefore.

Markham et al. (243') teaches a controller configured to generate separate pre-warming signals for each of the plural heating elements in response to the plural temperature sensors to elevate the temperature of at least one of said plural portions to a pre-warming temperature [Column 3 lines 2-18, Column 9 lines 4-33], wherein: the controller is configured to analyze which plural portions are required to eject ink during an upcoming print swath [Column 3 lines 7-13]; the controller is configured to continue to generate pre-warming signals after printing of said upcoming print swath has begun [Column 3 lines 7-25]; and after ink ejection from one of said plural portions is not required to complete said upcoming print swath, the controller is configured to cease to generate a pre-warming signal therefore [Column 3 lines 13-18; 21-30].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a controller configured to generate separate pre-warming signals for each of the plural heating elements in response to the plural temperature sensors to elevate the temperature of at least one of said plural portions to a pre-

warming temperature, wherein: the controller is configured to analyze which plural portions are required to eject ink during an upcoming print swath; the controller is configured to continue to generate pro-warming signals after printing of said upcoming print swath has begun; and after ink ejection from one of said plural portions is not required to complete said upcoming print swath, the controller is configured to cease to generate a pro-warming signal therefore as taught by Markham et al. (243') in the printing system of Imanaka et al. (316') for the purposes of avoiding abrupt changes in the heat applied to a printhead [Markham et al. (243')].

5. Claims 14, 16, 18-19, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markham et al. (6,808,243) in view of Silverbrook (6,634,735).

In re claim 14, *Markham et al. (243')* teaches a method of pre-warming a multi-color inkjet printhead having plural portions (27, 34 only one shown on Fig. 1) dispensing ink [Column 3 line 66-Column 4 lines 1-5; 10-14], comprising: analyzing, an upcoming print swath [Column 2 line 66-Column 3 line 2]; determining from said analyzing which of said plural portions are a dispensing portion required to dispense ink, and which of said plural portions are a non-dispensing portion not required to dispense ink during printing of said upcoming print swath [Column 3 lines 7-13, Column 7 lines 44-57, Column 8 line 60-Column 9 line 3]; generating a pre-warming signal for said dispensing portion [Column 7 lines 55-61; 66-Column 8 line 6, Column 9 lines 4-10]; pre-warming said dispensing portion in response to the pre-warming signal [Column 9 lines 10-12]; and omitting generation of a pre-warming signal for said non-dispensing

portion to produce no pre-warming thereof, wherein the pre-warming signal to the dispensing portion is generated in accordance with a predefined selection criteria that specifies an event after which the pre-warming signal ceases [Column 3 lines 13-27].

Although, Markham et al. (243') does not explicitly teach omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof, Markham et al. (243') does teach the generation of a pre-warming signal for the heating element/dispensing portion selected by the controller in response data signals received [Column 2 lines 39-45; 47-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to omit the pre-warming signal to the not selected heating element/non-dispensing portion to produce no pre-warming thereof due to the generation of a pre-warming signal for only the heating element/dispensing portion as taught by Markham et al. (243') for the purposes of controlling the volume of the ejected ink during a printing swath of the printhead [Column 2 lines 31-34].

In re claim 16, *Markham et al. (243')* teaches the method of claim 14 [see rejection above]. However, Markham et al. (243') does not teach monitoring the temperature of at least some of said plural portions; and wherein said generating of said pre-warming signal and said omitting generation of a pre-warming signal are conducted in response to said monitoring.

Silverbrook et al. (735') teaches monitoring the temperature of at least some of said plural portions; and wherein said generating of said pre-warming signal and said omitting generation of a pre-warming signal are conducted in response to said monitoring [Column 3 lines 11-16, Column 9 lines 18-23; 37-43].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide monitoring the temperature of at least some of said plural portions; and wherein said generating of said pre-warming signal and said omitting generation of a pre-warming signal are conducted in response to said monitoring as taught by *Silverbrook (735')* in the method of *Markham et al. (243')* for the purposes of providing operation conditions necessary for printing [*Silverbrook (735')* Column 9 lines 9-23].

In re claim 18, *Markham et al. (243')* teaches the method of claim 14 [see rejection above]. However, *Markham et al. (243')* does not teach beginning printing of a print swath; and ceasing generation of the pre-warming signal upon said beginning.

Silverbrook (735') teaches beginning printing of a print swath; and ceasing generation of the pre-warming signal upon said beginning [Column 8 lines 51-59].

It would have been obvious to one ordinary skill in the art at the time the invention was made to provide beginning printing of a print swath; and ceasing generation of the pre-warming signal upon said beginning as taught by *Silverbrook (735')* in the method of *Markham et al. (243')* for the purposes of controlling the

temperature of an inkjet printhead to be in a predetermined bound [Silverbrook (735')
Column 8 lines 47-51].

In re claim 19, *Markham et al. (243')* teaches the method of claim 14 [see rejection above]. However, *Markham et al. (243')* does not teach printing a print swath from a beginning point to an ending point; continuing generation of the pre-warming signal after printing from the beginning point; monitoring printing temperature of each of said plural portions during said printing; and ceasing to generate the pre-warming signal when the printing temperature exceeds a threshold temperature before printing to the ending point.

Silverbrook (735') teaches printing a print swath from a beginning point to an ending point; continuing generation of the pre-warming signal after printing from the beginning point; monitoring printing temperature of each of said plural portions during said printing; and ceasing to generate the pre-warming signal when the printing temperature exceeds a threshold temperature before printing to the ending point [Column 8 lines 51-59, Column 9 lines 9-23].

It would have been obvious to one ordinary skill in the art at the time the invention was made to provide printing a print swath from a beginning point to an ending point; continuing generation of the pre-warming signal after printing from the beginning point; monitoring printing temperature of each of said plural portions during said printing; and ceasing to generate the pre-warming signal when the printing temperature exceeds

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a threshold temperature before printing to the ending point as taught by Silverbrook (735') in the method of Markham et al. (243') for the purposes of providing operation conditions necessary for printing [Silverbrook (735') Column 9 lines 9-23] and for the purposes of controlling the temperature of an inkjet printhead to be in a predetermined bound [Silverbrook (735') Column 8 lines 47-51].

In re claim 37, *Markham et al. (243')* teaches the method of claim 14 [see rejection above] further comprising beginning printing of a print swath having a plurality of segments Column 2 line 66-Column 3 line 2, Column 5 lines 4-12, Column 8 line 60-column 9 line 3]; and ceasing generation of the pre-warming signal for a particular dispensing portion for a particular dispensing portion during printing of a final segment of the print swath [Column 3 lines 13-27, Column 9 lines 4-48].

In re claim 38, *Markham et al. (243')* teaches the method of claim 14 [see rejection above] further comprising beginning printing of a print swath [Column 2 line 66-Column 3 line 2, Column 8 line 60-column 9 line 3]; and ceasing generation of the pre-warming signal for a particular dispensing portion after ink dispensing from the particular dispensing portion is concluded for the print swath [Column 3 lines 13-27, Column 9 lines 42-57].

In re claim 39, *Markham et al. (243')* teaches the method of claim 14 [see rejection above]. However, *Markham et al. 9243')* does not teach wherein the pre-warming signal is generated before beginning printing of the print swath.

Silverbrook (735') teaches a pre-warming signal is generated before beginning printing of the print swath [Column 8 lines 51-59].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a pre-warming signal generated before beginning printing of the print swath as taught by *Silverbrook (735')* in the method of *Markham et al. (243')* for the purposes of set the temperature of the printhead to be within a predetermined thermal range to print and image [*Silverbrook (735')* Abstract].

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kao et al. (2002/0018086)* in view of *Anderson (5,984,455)* and *Markham et al. (6,808,243)*.

In re claim 20, *Kao et al. (2002/0018086)* teaches a method of pre-warming a multi-color inkjet printhead (70, Fig. 1) having plural portions (76, Fig. 1) dispensing ink, including first and second portions (76), [Paragraph 4 lines 1-4; 11-14] comprising: generating a pre-warming signal for the first portion [Paragraph 6 lines 1-12, Paragraph 35 lines 6-10]; prewarming said first portion in response to the pre-warming signal [Paragraph 6 lines 9-26]; omitting generation of a pre-warming signal for said second portion to produce no pre-warming thereof [Paragraph 35 lines 6-10, Paragraph 36 lines 1-5]. However, *Kao et al. (2002/0018086)* does not teach analyzing an upcoming print

swath; determining from said analyzing which of said plural portions are transitional portions required to dispense ink over an initial segment of said upcoming print swath, and not required to dispense ink over a final segment of said upcoming print swath; and from said determining, continuing generation of the pre-warming signal for said transitional portions during printing of the initial segment and ceasing generation of the pre-warming signal during printing of the final segment.

Anderson (455') teaches analyzing an upcoming print swath; determining from said analyzing which of said plural portions are transitional portions required to dispense ink over an initial segment of said upcoming print swath, and not required to dispense ink over a final segment of said upcoming print swath [Column 6 lines 42-60, Column 7 line 14-Column 8 line 9]. However, *Anderson* does not teach from said determining, continuing generation of the pre-warming signal for said transitional portions during printing of the initial segment and ceasing generation of the pre-warming signal during printing of the final segment.

Markham et al. (243') teaches from said determining, continuing generation of the pre-warming signal for said transitional portions during printing of the initial segment and ceasing generation of the pre-warming signal during printing of the final segment [Column 2 lines 39-45; 47-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to analyzing an upcoming print swath; determining from said analyzing which of said plural portions are transitional portions required to dispense ink over an initial segment of said upcoming print swath, and not required to dispense ink

over a final segment of said upcoming print swath as taught by Anderson (455') and to provide from said determining, continuing generation of the pre-warming signal for said transitional portions during printing of the initial segment and ceasing generation of the pre-warming signal during printing of the final segment as taught by Markham et al. (243') in the method of Kao et al. (2002/0018086) for the purposes of increasing the operating speed of a printer apparatus [Anderson (455') Column 2 lines 29-30] and for the purposes of controlling the volume of the ejected ink during a printing swath of the printhead [Markham et al. (243') Column 2 lines 31-34].

7. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (2002/0018086) in view of Yamada et al. (6,359,701).

In re claim 24, *Kao et al. (2002/0018086)* teaches a printing system, comprising: means for ejecting ink from plural portions (76, Fig. 1) of an inkjet printhead [Paragraph 4 lines 1-4; 11-14]; means for heating each of said plural portions (76) in response to a pre-warming signal [Paragraph 4 lines 7-10]; means for generation the pre-warming signal for the printing portion [Paragraphs 5-6 and Paragraph 35 lines 6-10]; and means for omitting generation of the pre-warming signal for the non-printing portions [Paragraph 7 and Paragraph 36 lines 1-5]. However, *Kao et al. (2002/0018086)* does not teach a means for determining a type of upcoming media and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing upon said upcoming media type.

Yamada et al. (701') teaches a means for determining a type of upcoming media and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing upon said upcoming media type [Column 12 lines 33-44 and Column 85 lines 17-36].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a means for determining a type of upcoming media and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing upon said upcoming media type as taught by *Yamada et al. (701')* in the printing system of *Kao et al. (2002/0018086)* for the purposes of independently controlling the print resolution of a printhead [*Yamada et al. (701')* Abstract].

In re claim 25, *Kao et al. (2002/0018086)* teaches a printing system, comprising: means for ejecting ink from plural portions (76, Fig. 1) of an inkjet printhead [Paragraph 4 lines 1-4; 11-14]; means for heating each of said plural portions (76) in response to a pre-warming signal [Paragraph 4 lines 7-10]; means for generation the pre-warming signal for the printing portion [Paragraphs 5-6 and Paragraph 35 lines 6-10]; and means for omitting generation of the pre-warming signal for the non-printing portions [Paragraph 7 and Paragraph 36 lines 1-5]. However, *Kao et al. (2002/0018086)* does not teach a means for determining a print quality of an upcoming image to be printed and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing said

upcoming image with the determined print quality; and means for delivering the pre-warming signal to the printing portions.

Yamada et al. (701') teaches a means for determining a print quality of an upcoming image to be printed and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing said upcoming image with the determined print quality; and means for delivering the pre-warming signal to the printing portions [Column 2 lines 21-36].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a means for determining a print quality of an upcoming image to be printed and a means for sorting which of said plural portions comprise printing portions and which of said plural portions comprise non-printing portions when printing said upcoming image with the determined print quality; and means for delivering the pre-warming signal to the printing portions as taught by *Yamada et al. (701')* in the printing system of *Kao et al. (20020018086)* for the purposes of independent control of the resolution of text and non-text data [*Yamada et al. (701')* Abstract].

8. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kao et al. (2002/0018086)* in view of *Anderson (5,984,455)* and *Markham et al. (6,808,243)*.

In re claim 27, *Kao et al. (2002/0018086)* teaches a printing system, comprising: means for ejecting ink from plural portions (76, Fig. 1) of an inkjet printhead [Paragraph 4 lines 1-4; 11-14]; means for heating each of said plural portions (76) in response to a

pre-warming signal [Paragraph 4 lines 7-10]; means for generation the pre-warming signal for the printing portion [Paragraphs 5-6 and Paragraph 35 lines 6-10]; and means for omitting generation of the pre-warming signal for the non-printing portions [Paragraph 7 and Paragraph 36 lines 1-5]. However, Kao et al. (2002/0018086) does not teach a means for determining when said one of said plural portions is required to print during an initial segment of a print swath and is not required to print during a final segment of the print swath; and means for ceasing generation of the pre-warming signal after printing said initial segment.

Anderson (455') teaches a means for determining when said one of said plural portions is required to print during an initial segment of a print swath and is not required to print during a final segment of the print swath [Column 6 lines 42-60, Column 7 line 14-Column 8 line 9]. However, *Anderson (455')* does not teach a means for ceasing generation of the pre-warming signal after printing said initial segment.

Markham et al. (243') teaches a means for ceasing generation of the pre-warming signal after printing said initial segment [Column 8 line 60-Column 9 line 3; 8-48].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a means for determining when said one of said plural portions is required to print during an initial segment of a print swath and is not required to print during a final segment of the print swath as taught by *Anderson (455')* and to provide a means for ceasing generation of the pre-warming signal after printing said initial segment as taught by *Markham et al. (243')* in the printing system of Kao et al.

(2002/018086) for the purposes of increasing the operating speed of a printer apparatus [Anderson (455') Column 2 lines 29-30] and the purposes of controlling the volume of the ejected ink during a printing swath of the printhead [Markham et al. (243') Column 2 lines 31-34].

9. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (2002/0018086) in view of Markham et al. (6,808,246) and Aono et al. (2002/0145645).

In re claim 33, *Kao et al. (2002/0018086)* teaches a printing system, comprising: an inkjet printhead (70, Fig. 1) having plural portions (76, fig. 1) each having an ink-ejecting nozzle (82, Fig. 1) [Paragraph 4 lines 1-4; 1-14]; plural heater elements (78, Fig. 1) each associated with one of said plural portions (76) to pre-warm ink dispensed by the nozzle (82) of said associated portion in response to a pre-warming signal [Paragraph 4 lines 7-10, Paragraphs 5-6] and wherein plural portions are configured to eject ink [Paragraph 4 lines 11-14]. However, *Kao et al. (2002/0018086)* does not teach a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria, and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria, wherein particular ones of the plural portions are

configured to eject a particular color ink, and wherein the selection criteria specifies a subset of the particular plural portions to be used to print the swath.

Markham et al. (243') teaches a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria [Column 2 lines 40-45, see also Fig. 2], and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria [Column 2 lines 47-49] and wherein the selection criteria specifies a subset of the particular plural portions to be used to print the swath [Column 2 lines 40-45]. However, *Markham et al. (243')* does not teach wherein particular ones of the plural portions are configured to eject particular color ink.

Aono et al. (2002/0145645) teaches particular ones of the plural portions are configured to eject a particular color ink [Paragraph 70 lines 4-6].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria, and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria and wherein the selection criteria specifies a subset of the particular plural portions to be used to print the swath as taught by *Markham et al. (243')* and to provide particular ones of the plural portions are configured to eject a particular color ink as taught by *Aono et al.*

92002/0145645) in the printing system of Kao et al. (2002/0018086) for the purposes of providing a predetermined increment of heat to a heating element of a printhead [Markham et al. 9243'] Abstract] and for the purposes of when cleaning a wiping blade there will not be left remnant of ink [Aono et al. (2002/0145645) Paragraph 70 lines 7-10].

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (2002/0018086) in view of Markham et al. (6,808,243).

In re claim 34, *Kao et al. (2002/0018086)* teaches a printing system, comprising: an inkjet printhead (70, Fig. 1) having plural portions (76, fig. 1) each having an ink-ejecting nozzle (82, Fig. 1) [Paragraph 4 lines 1-4; 1-14]; plural heater elements (78, Fig. 1) each associated with one of said plural portions (76) to pre-warm ink dispensed by the nozzle (82) of said associated portion in response to a pre-warming signal [Paragraph 4 lines 7-10, Paragraphs 5-6]. However, *Kao et al. (2002/0018086)* does not teach a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria, and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria, wherein the selection criteria specifies an event after which the controller stops supplying the pre-warming signal to the heater elements of the portions required to eject the ink to print the swath.

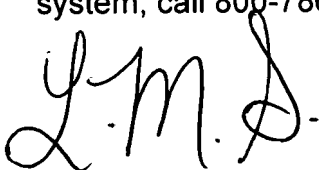
Markham et al. (243') teaches a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria [Column 2 lines 40-45, see also Fig. 2], and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria [Column 2 lines 47-49], wherein the selection criteria specifies an event after which the controller stops supplying the pre-warming signal to the heater elements of the portions required to eject the ink to print the swath [Column 2 line 66-Column 3 line 27, Column 9 lines 4-56].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a controller configured to analyze an upcoming print swath to determine which of said plural portions are required to eject ink in order to print the swath in accordance with a predefined selection criteria, and supply the pre-warming signal to one or more heater elements of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria, wherein the selection criteria specifies an event after which the controller stops supplying the pre-warming signal to the heater elements of the portions required to eject the ink to print the swath as taught by *Markham et al. (243')* in the printing system of *Kao et al. (2002/0018086)* for the purposes of providing a predetermined increment of heat to a heating element of a printhead [*Markham et al. 9243')* Abstract].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Solomon whose telephone number is (571) 272-1701. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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7/25/2007



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